

WHAT IS CLAIMED IS:

1. A recreational vehicle assembly comprising:

a main housing defining an interior living space having a floor located at a first level, wherein the main housing defines a first wall having an opening formed therein;

a slide-out housing having a floor with an inclined lower end and an outer wall positioned within the opening in the first wall of the main housing, wherein the slide-out housing is adapted to be movable between a retracted position wherein the floor of the slide-out housing is positioned at a second level above the first level of the floor of the main housing and the outer wall is positioned substantially adjacent the first wall of the main housing and a deployed position wherein the outer wall is extended away from the first wall of the main housing and the floor of the slide-out housing is positioned at a third level below the second level so as to be more planar with the first level; and

a hinged flooring mechanism having a movable floor section that engages with the inclined lower end of the slide-out housing floor so as to vertically move the slide-out housing and to thereby move the floor of the slide-out housing between the second and third level.

2. The assembly of Claim 1, wherein the third level is coplanar with the first level.

3. The assembly of Claim 2, further comprising a deployment and retraction mechanism that deploys and retracts the slide-out housing.

4. The assembly of Claim 3, wherein the deployment and retraction mechanism comprises a housing member that is mounted to the main housing and a telescoping member that is mounted to the slide-out housing, and wherein the telescoping member outwardly extends from the housing member so as to deploy the slide-out housing from the main housing, and wherein the telescoping member retracts within the housing member so as to retract the slide-out housing into the main housing.

5. The assembly of Claim 1, wherein the hinged flooring mechanism comprises a hinge assembly that rotatably attaches the movable floor section to the main housing floor so as to allow the movable floor section to rotate between first and second orientations.

6. The assembly of Claim 5, wherein the first orientation positions the movable floor section in an aligned configuration with respect to the main housing floor, and wherein the second orientation positions the movable floor section in a sloped configuration with respect to the main housing floor.

7. The assembly of Claim 6, wherein the movable floor in the first orientation defines a coplanar flooring surface between the main housing floor and the slide-out housing floor when the slide-out housing floor is positioned at the third level.

8. The assembly of Claim 6, wherein the movable floor in the second orientation allows the slide-out housing to engage with the inclined lower end of the slide-out housing floor so that the slide-out housing is deployed and positioned at the third level.

9. The assembly of Claim 6, wherein the movable floor in the second orientation allows the slide-out housing to engage with the inclined lower end of the slide-out housing floor so that the slide-out housing is retracted and positioned at the second level.

10. The assembly of Claim 6, wherein the inclined lower end of the slide-out floor slidably engages the movable floor section when the movable floor section is positioned in the second orientation to thereby allow vertical movement of the slide-out housing.

11. The assembly of Claim 6, wherein the hinged flooring mechanism further comprises one or more mechanical components having a piston functionally attached to the movable floor section, and wherein the piston is adapted to induce rotation of the movable floor section to the first and second orientations, and wherein the one or more mechanical components are selected from the group consisting of one or more solenoid components, one or more hydraulic components, and one or more pneumatic components.

12. A recreational vehicle comprising:

a carriage assembly having a plurality of wheels;

a plurality of exterior planar walls mounted on the carriage assembly, wherein the plurality of exterior planar walls define a main housing having a first inner living space with a first floor;

a plurality of interior planar walls defining an expandable room having a second inner living space with a second floor, wherein the expandable room may be deployed in a manner so as to increase the total inner living space in the recreational vehicle and retracted in a manner so as to reduce the total inner living space in the recreational vehicle;

a movable floor section attached to the first floor of the main housing via a hinge, wherein the movable floor section is rotated to a first orientation so as to define an inclined surface for lifting and lowering the expandable room, and wherein the movable floor section is rotated to a second orientation so as to align the second floor of the expandable room with the first floor of the main housing; and

an actuating mechanism that induces the movable floor section to rotate between the first and second orientations.

13. The recreational vehicle of Claim 12, wherein the second orientation of the movable floor section defines a substantially coplanar flooring surface between the first floor of the main housing, the movable floor section, and the second floor of the expandable room.

14. The recreational vehicle of Claim 12, wherein the expandable room is lifted to a first position above the first floor of the main housing by rotating the movable floor section to the first orientation and retracting the expandable room along the inclined surface of the movable floor section.

15. The recreational vehicle of Claim 14, wherein the expandable room is lowered to a second position below the first position by deploying the expandable room along the inclined surface of the movable floor section when the expandable room is in the first position above the first floor of the main housing.

16. The recreational vehicle of Claim 12, wherein the actuating mechanism comprises an actuating device adapted to be functionally attached to the movable floor section so as to induce rotation of the movable floor section to the first and second orientations.

17. The recreational vehicle of Claim 12, wherein the actuating mechanism comprises one or more mechanical components having a piston functionally attached to the movable floor section, and wherein the piston is adapted to induce rotation of the movable

floor section to the first and second orientations, and wherein the one or more mechanical components are selected from the group consisting of one or more solenoid components, one or more hydraulic components, and one or more pneumatic components.

18. The recreational vehicle of Claim 12, wherein the main housing further comprises at least one telescoping member having a telescoping armature attached to the second floor of the expandable room via a slotted member, wherein the at least one telescoping member is positioned substantially parallel to the first and second floors and is adapted to deploy and retract the expandable room from and to the main housing in a horizontal motion.

19. The recreational vehicle of Claim 18, wherein the slotted member allows the expandable room to vertically move during lifting and lowering without changing the position of the at least one telescoping member with respect to the first and second floors.

20. A recreational vehicle assembly comprising:

a main housing defining an interior living space having a floor located at a first level, wherein the main housing defines a first wall having an opening formed therein;

a slide-out housing having a floor with a first lip component and an outer wall positioned within the opening in the first wall of the main housing, wherein the slide-out housing is adapted to retract such that the outer wall abuts the first wall of the main housing, and wherein the slide-out housing is adapted to deploy such that the outer wall is extended away from the first wall of the main housing; and

a hinged floor section mounted to the floor of the main housing so as to move between first and second orientations, wherein the hinged floor section in the first orientation is adapted to slidably engage with the floor of the slide-out housing so as to vertically move the slide-out housing, and wherein the hinged floor section in the second orientation substantially aligns with the floor of the main housing.

21. The assembly of Claim 20, wherein the hinged floor section in the second orientation substantially aligns with the floor of the slide-out housing.

22. The assembly of Claim 20, wherein the first lip component extends outwardly from the hinged floor section in a substantially parallel manner towards the opening in the

first wall of the main housing, and wherein the first lip component comprises a thickness that is at least less than the thickness of the hinged floor section.

23. The assembly of Claim 22, wherein the floor of the slide-out housing comprises a second lip component that extends outwardly from the floor of the slide-out housing in a substantially parallel manner towards the opening in the first wall of the main housing, and wherein the second lip component comprises a thickness that is at least less than the thickness of the floor of the slide-out housing.

24. The assembly of Claim 23, wherein the first lip component engages the second lip component such that, when coupled, the floors of the main housing and the slide-out housing substantially align with the hinged floor section in the second orientation to thereby form a substantially planar flooring surface between the main housing, the hinged floor section, and the slide-out housing.

25. The assembly of Claim 20, wherein the hinged floor section comprises at least a portion of the floor of the main housing, and wherein the second orientation of the hinged floor section defines a substantially aligned position such that the floor of the main housing is coplanar to the floor of the slide-out housing when the hinged floor section is moved to the second orientation after deployment of the slide-out housing.

26. The assembly of Claim 20, further comprising an armature assembly that deploys and retracts the slide-out housing from and to the main housing.

27. The assembly of Claim 26, wherein the armature assembly comprises a housing member that is mounted to the main housing and a telescoping member that is mounted to the slide-out housing, and wherein the telescoping member outwardly extends from the housing member so as to deploy the slide-out housing from the main housing, and wherein the telescoping member extends within the housing member so as to retract the slide-out housing into the main housing.

28. The assembly of Claim 27, wherein the hinged floor section rotates to an inclined position such that, when the telescoping member extends within the housing member, the slide-out housing is vertically lifted to a first position above the floor of the main housing.

29. The assembly of Claim 28, wherein the hinged floor section rotates to the inclined position such that, when the telescoping member outwardly extends from the housing member, the slide-out housing is vertically lowered to a second position below the first position.

30. The assembly of Claim 20, wherein the recreational vehicle further comprises an actuating mechanism that induces the hinged floor section to move between the first and second orientations.

31. The assembly of Claim 30, wherein the actuating mechanism includes at least one mechanical component having an exterior housing mounted to the main housing and a piston attached to the hinged floor section, and wherein the piston is adapted to induce movement of the hinged floor section between the first and second orientations, and wherein the mechanical component is selected from the group consisting of at least one solenoid component, at least one hydraulic component, and at least one pneumatic component.

32. A method of moving a slide-out assembly of a recreational vehicle, the method comprising:

positioning a slide-out room within the main housing of a recreational vehicle such that the floor of the slide-out room is positioned at a first level above the floor of the main housing and such that an outer wall of the slide-out room is positioned proximate to the outer wall of the main housing;

moving the slide-out room into a deployed position so as to lower the slide-out room from the first level to a second level, wherein the outer wall of the slide-out room is positioned distally from the outer wall of the main housing to thereby increase the floor space of the recreational vehicle; and

moving at least a portion of the floor of the main housing such that the slide-out room is more co-planar with the floor of the main housing.

33. The method of Claim 32, wherein moving the slide-out assembly of a recreational vehicle comprises moving the slide-out assembly of a recreational vehicle having a chassis and a set of wheels to permit rolling movement of the recreational vehicle over the ground.

34. The method of Claim 32, wherein moving the slide-out assembly of a recreational vehicle comprises moving the slide-out assembly of a motorhome.

35. The method of Claim 32, wherein moving the slide-out room comprises moving the slide-out room with a deployment and retraction mechanism that moves the slide-out room between a retracted position and the deployed position.

36. The method of Claim 35, wherein the deployment and retraction mechanism comprises a housing member that is mounted to the main housing and a telescoping member that is mounted to the slide-out room, and wherein the telescoping member outwardly extends from the housing member so as to deploy the slide-out room from the main housing, and wherein the telescoping member extends within the housing member so as to retract the slide-out room into the main housing.

37. The method of Claim 32, wherein moving at least a portion of the floor of the main housing comprises actuating a hinged floor section of the main housing floor.

38. The method of Claim 37, wherein the hinged floor section is mounted to the main housing floor so as to pivot between a first and second orientation.

39. The method of Claim 38, wherein the hinged floor section is actuated by a gear driven motor.

40. The method of Claim 38, wherein the hinged floor section is actuated by a piston that is attached to the main housing.